

(12) Have no bypass opening on any excess flow valve.

(e) Cargo transfer operations:

(1) May not be conducted with more than one cargo tank at a time unless each tank is filled from or discharged to shore tanks through separate lines;

(2) Must be conducted with connections between fixed barge piping and shore piping of either Schedule 40 pipe having flexible metallic joints that meet § 151.04-5(h) or of flexible metallic hose that is acceptable to the Commandant (G-MSO);

(3) From barge to shore must be by pressurization with an oil free, non-reactive gas that has a maximum of 100 ppm moisture;

(4) Must be conducted with vapor return to shore connections that ensure that all vapor is returned to shore; and

(5) Must be conducted with every person on the barge carrying a respiratory protective device that protects the wearer against sulfur dioxide vapors and provides respiratory protection for emergency escape from a contaminated area that results from cargo leakage.

(f) Respiratory protective equipment must be of a size and weight that allows unrestricted movement and wearing of a lifesaving device.

(g) After the completion of cargo transfer, all liquid sulfur dioxide in the cargo piping must be removed and cargo transfer piping must be disconnected at the cargo tanks. After the cargo piping is disconnected, both ends of the line must be plugged or fitted with blind flanges.

[CGD 80-001, 46 FR 63280, Dec. 31, 1981, as amended by CGD 82-063b, 48 FR 4781, Feb. 3, 1983; CGD 88-100, 54 FR 40041, Sept. 29, 1989; 55 FR 17276, Apr. 24, 1990]

#### **§ 151.50-86 Alkyl (C7-C9) nitrates.**

(a) The carriage temperature of octyl nitrates must be maintained below 100 °C (212 °F) in order to prevent the occurrence of a self-sustaining exothermic decomposition reaction.

(b) Octyl nitrates may not be carried in a deck tank unless the tank has a combination of insulation and a water deluge system sufficient to maintain the tank's cargo temperature below 100 °C (212 °F) and the cargo temperature

rise at or below 1.5 °C(2.7 °F)/hour, for a fire of 650 °C (1200 °F).

[CGD 88-100, 54 FR 40040, Sept. 29, 1989; CGD 92-100, 59 FR 17028, Apr. 11, 1994]

### **Subpart 151.55—Special Requirements for Materials of Construction**

#### **§ 151.55-1 General.**

(a) This section provides special requirements for the materials of construction of equipment that may come into contact with various cargoes. Table 151.05 contains specific requirements for various cargoes.

(b) Copper, copper alloys, zinc, and aluminum shall not be used as materials of construction for tanks, pipelines, valves, fittings, and other items of equipment that may come in contact with the cargo liquid or vapor. (Equivalent to § 151.56-1(a),(b), and (c).)

(c) Copper, copper alloys, zinc, galvanized steel, and mercury shall not be used as materials of construction for tanks, pipelines, valves, fittings, and other items of equipment that may come in contact with the cargo liquid or vapor. (Equivalent to § 151.56-1(b),(c), and (g).)

(d) Aluminum, magnesium, zinc, and lithium shall not be used as materials of construction for tanks, pipelines, valves, fittings, and other items of equipment that may come in contact with the cargo liquid or vapor. (Equivalent to § 151.56-1(a),(c), and (d).)

(e) Copper and copper bearing alloys shall not be used as materials of construction for tanks, pipelines, valves, fittings, and other items of equipment that may come in contact with the cargo liquid or vapor. (Equivalent to § 151.56-1(b).)

(f) Aluminum or copper or alloys of either shall not be used as materials of construction for tanks, pipelines, valves, fittings, and other items of equipment that may come in contact with the cargo vapor or liquid. (Equivalent to § 151.56-1(a) and (b).)

(g) Aluminum, stainless steel, or steel covered with a suitable protective lining or coating shall be used as materials of construction for tanks, pipelines, valves fittings, and other items of equipment that may come in contact